

CLAIMS

What is claimed is:

1. A method of image coding, comprising:

(a) wavelet transform a portion of a digital image into hierarchical trees of coefficients;

(b) for a first tree of said hierarchical trees and for a first cluster of children nodes derived from a first parent node of said first tree, after encoding said first parent node encode a value and tree indication for each of the children nodes in said first cluster wherein (i) said value and tree indication are skipped when said encoding of said first parent node so indicates, (ii) said tree indication for a first of said children nodes indicates significance of descendant nodes of said first of said children nodes, (iii) said value for a first of said children nodes indicates significance of said first of said children nodes, (iv) said value and tree indication for one of said children nodes is skipped when determinable from encoding of the other of said children nodes of said first cluster, and (v) said tree indication is omitted if said children nodes in said first cluster have no descendant nodes; and

(c) repeat foregoing step (b) for a second, third, ..., and Nth cluster of children nodes derived from a second, third, ..., and Nth parent node of said first tree; and

(d) repeat foregoing steps (b)-(c) for a second, third, ..., and Mth tree of said hierarchical trees.

2. The method of claim 1, wherein:

(a) the steps (b)-(c) of claim 1 are repeated for each bitplane of said coefficients.

3. The method of claim 1, wherein:

(a) the steps (b)-(c) of claim 1 include arithmetic coding of said values and tree indications using a context which for a children node includes other children nodes of a common cluster.

4. The method of claim 2, wherein:

(a) said value is a member of the group consisting of a significance bit plus a sign bit, an insignificance bit, a refinement bit, and a skip.

5. The method of claim 2, wherein:

(a) said tree indication is a member of the group consisting of a zerotree root, a significant descendant node, and a skip.

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